

A taxonomic review of the subgenus *Hyparpalus* (genus *Parophonus*) of the Oriental and Australian regions (Coleoptera: Carabidae: Harpalini)

Таксономический обзор жуужелиц подрода *Hyparpalus* (род *Parophonus*) Ориентальной и Австралийской областей (Coleoptera: Carabidae: Harpalini)

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A taxonomic review of the subgenus *Hyparpalus* Alluaud, 1930 (genus *Parophonus* Ganglbauer, 1892) of the Oriental and Australian regions is given. Nine species are recognised in the fauna of the Oriental Region, one of which reaches the northern Australia. The Oriental species are divided in three species groups: the *cyaneotinctus* (two species), *subtilis* (three species) and *javanus* (four species) groups. Distinctive characters and a key for identification of these groups and all the included species are provided. Relationships between *Hyparpalus* of the Oriental and Afrotropical regions and status of the Afrotropical taxon *Orphanixus* Clarke, 1971 are discussed. The following new synonymies are established: *Parophonus subtilis* (Bates, 1892) = *Hyparpalus iridicolor* Landin, 1955, **syn. nov.** = *H. nagpurensis* Ito, 1993, **syn. nov.** = *H. nagpurensis curvatus* Ito, 1993, **syn. nov.** = *H. pakistanensis* Ito, 2008, **syn. nov.**; *Parophonus lividus* (Andrewes, 1923) = *Hyparpalus hiebei* Ito, 1993, **syn. nov.**; *Parophonus vitalisi* (Andrewes, 1922) = *Hyparpalus maniti* Ito, 1993, **syn. nov.** = *H. maniti similis* Ito, 1993, **syn. nov.**; *Parophonus acutangulus* (Bates, 1891) = *Hyparpalus gracilis* Andrewes, 1947, **syn. nov.**; *Parophonus javanus* (Gory, 1833) = *Diaphoromerus opacus* MacLeay, 1888, **syn. nov.** = *Parophonus australicus* Baehr, 1986, **syn. nov.** Lectotypes are designated for *Hypolithus cyaneotinctus* Bates, 1889, *H. cyanellus* Bates, 1889 and *H. acutangulus* Bates, 1891.

Дан таксономический обзор жуужелиц подрода *Hyparpalus* Alluaud, 1930 (род *Parophonus* Ganglbauer, 1892) Ориентальной и Австралийской областей. Фауна Ориентальной области включает девять видов, один из которых достигает северной Австралии. Ориентальные виды разделены на три видовые группы: '*cyaneotinctus*' (два вида), '*subtilis*' (три вида) and '*javanus*' (четыре вида). Для всех видовых групп и всех видов, включенных в эти группы, приводятся диагнозы и составлены таблицы для их определения. Обсуждаются связи между ориентальными и афротропическими видами *Hyparpalus*, а также статус афротропического таксона *Orphanixus* Clarke, 1971. Установлены следующие новые синонимы: *Parophonus subtilis* (Bates, 1892) = *Hyparpalus iridicolor* Landin, 1955, **syn. nov.** = *H. nagpurensis* Ito, 1993, **syn. nov.** = *H. nagpurensis curvatus* Ito, 1993, **syn. nov.** = *H. pakistanensis* Ito, 2008, **syn. nov.**; *Parophonus lividus* (Andrewes, 1923) = *Hyparpalus hiebei* Ito, 1993, **syn. nov.**; *Parophonus vitalisi* (Andrewes, 1922) = *Hyparpalus maniti* Ito, 1993, **syn. nov.** = *H. maniti similis* Ito, 1993, **syn. nov.**; *Parophonus acutangulus* (Bates, 1891) = *Hyparpalus gracilis* Andrewes, 1947, **syn. nov.**; *Parophonus javanus* (Gory, 1833) = *Diaphoromerus opacus* MacLeay, 1888, **syn. nov.** = *Parophonus australicus* Baehr, 1986, **syn. nov.** Для *Hypolithus cyaneotinctus* Bates, 1889, *H. cyanellus* Bates, 1889 and *H. acutangulus* Bates, 1891 обозначены лектотипы.

Key words: Coleoptera, Carabidae, *Parophonus*, *Hyparpalus*, *Orphanixus*, Oriental Region, Australia, taxonomy

Ключевые слова: Coleoptera, Carabidae, *Parophonus*, *Hyparpalus*, *Orphanixus*, Ориентальная область, Австралия, таксономия

INTRODUCTION

Parophonus Ganglbauer, 1892 is a rather diverse selenophorine genus, which, like other more or less large genera of Harpalini, may be defined by a combination of several nonspecific characters: mandible moderately long, unmodified; pronotal sides with only one lateral seta; elytra completely, densely and regularly punctate with at least external intervals pubescent; 3rd, 5th and 7th intervals with discal pores (in some species pores hardly recognizable); metepisterna longer than wide and hind wings fully developed; metacoxa without a posteromedial pore; tarsi pubescent dorsally; pro- and mesotarsi in male widened and with adhesive vestiture ventrally; apical stylomere with a short proximal seta on venter in most species; and apical orifice of aedeagus in dorsal position or slightly shifted to the right. According to the modern view (Lorenz, 2005), the genus *Parophonus* includes nine subgenera and more than 80 species distributed in the western Palaearctic (mainly in the Mediterranean area), Afrotropical, Oriental and Australian regions. It is possible that the genus should include also *Athrostictus* Bates, 1878 from South America, which shares with *Parophonus* all the distinctive characters listed above, but the apical stylomere in *Athrostictus*, according to Noonan, 1985, is constantly without any extra setae. I could not find another, more distinct character for separation of *Parophonus* and *Athrostictus*.

The taxonomy of *Parophonus* is still very obscure, and some of its subgenera, including the largest of them, *Hyparpalus* Alluaud, 1930, are often considered as separate genera or, more rarely (Noonan, 1985), as synonymous with *Parophonus*. In the present paper, I follow the opinion of Lorenz (2005) and treat *Hyparpalus* as a subgenus of *Parophonus*, but true relationships within this genus can be clarified only after the revision of all the related taxa. The main distinctive characters of *Hyparpalus* are as following: head, pronotum and elytra punctate throughout; head pubescent or glabrous;

temples glabrous or, very rarely, with few, hardly recognizable setae; pronotum pubescent at least latero-basally; elytra pubescent throughout in both sexes; mentum with median tooth, latter sometimes extremely small and very obtuse; elytral basal border forming with lateral margin of elytra a distinct angle (inner humeral angle angulate), and *series umbilicata* more or less widely interrupted in middle portion.

Hyparpalus comprises about 50 species most of which are distributed in the Afrotropical Region; 13 species were described from the Oriental Region, and one species is known from the northern Australia. The Afrotropical species were revised by Lecordier (1988), but the Oriental species have never been revised. The purpose of this paper is to revise the species of *Hyparpalus* from the Oriental Region and Australia and provide a key for their determination.

MATERIAL AND METHODS

The present paper is based on the examination of 201 specimens of *Hyparpalus* from the Oriental Region and Australia and more than 300 specimens from the Afrotropical Region. In addition, representatives of most species of all other subgenera of *Parophonus* were also examined.

The following abbreviations are used for the depositories of the examined specimens:

BMNH – The Natural History Museum, London, United Kingdom; cFED – Coll. D.N. Fedorenko, Moscow, Russia; cGRK – Coll. V. Gurko, Chernovtsy, Ukraine; cHNZ – Coll. W. Heinz, Schwanfeld, Germany; cSCHM – Coll. J. Schmidt, Marburg, Germany; cWR – Coll. D.W. Wrase, Berlin, Germany; FMNH – Field Museum of Natural History, Chicago, USA; HNHM – Természettudományi Múzeum (Hungarian Natural History Museum), Budapest, Hungary; IZB – Institute of Zoology, Chinese Academy of Sciences, Beijing, China MNHN – Muséum National d'Histoire Naturelle, Paris, France; MPU – Moscow Pedagogical University, Moscow, Russia;

NME – Naturkundemuseum Erfurt, Germany; NMP – National Museum Prague, Czech Republic; NRM – Naturhistoriska Riksmuseet (Museum of Natural History), Stockholm, Sweden; SZM – Siberian Zoological Museum, Institute of Systematics and Ecology of Animals, Siberian Branch, Russian Academy of Sciences, Novosibirsk, Russia; ZIN – Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia; ZMB – Museum für Naturkunde an der Humboldt-Universität, Berlin, Germany; ZSM – Zoologische Staatssammlung München, Germany.

Measurements were taken as follows: body length from anterior margin of clypeus to elytral apex; width of head as maximum linear distance across head, including compound eyes (HWmax), and as minimum linear distance across neck constriction just behind eyes (HWmin); length of pronotum (PL) along its median line; length of elytra (EL) from basal border in scutellar region to apex of sutural angle; maximum width of pronotum (PWmax) and elytra (EW) in their broadest point; minimum width of pronotum (PWmin) in its narrowest point near hind angles; length and width of metepisterna along their inner and anterior margins, respectively.

TAXONOMY

Genus *Parophonus* Ganglbauer, 1892

Subgenus *Hyparpalus* Alluaud, 1930

Hyparpalus Alluaud, 1930: 162 (substitute name for *Hypolithus* Dejean, 1829). Type species *Carabus saponarius* Olivier, 1795, designated for *Hypolithus* by Hope, 1838: 84.

= *Hypolithus* Dejean, 1829 (November): 5, 166 [non Eschscholtz, 1829 (January)]. Type species *Carabus saponarius* Olivier, 1795, designated by Hope, 1838: 84.

= ? *Orphanixus* Clarke, 1971: 366. Type species *Orphanixus gibbiensis* Clarke, 1971 (= *Parophonus pierroni* Jeannel, 1948), by original designation.

Comparative diagnosis. The members of *Hyparpalus* are distinguished from

the Palaearctic representatives of the genus *Parophonus* (including *Ophonomimus* Schauburger, 1923 and *Tachyophonus* Tschitscherine, 1901) by the absence of the distinct setae on the temples. In addition, *Ophonomimus* is discriminated from *Hyparpalus* in the mentum without median tooth, and *Tachyophonus* is distinct from *Hyparpalus* in having the inner humeral angle rounded, the eyes very weakly convex and the temples very oblique. The Afrotropical subgenera *Heterohyparpalus* Basilewsky, 1946 and *Paratheles* Basilewsky, 1950 as well as the Oriental subgenus *Kareya* Andrewes, 1919 differ from *Hyparpalus* in having the head dorsally and the pronotum in the apical half impunctate and the inner humeral angle more or less widely rounded.

Description. Body length 6.9–20.1 mm (in the Oriental species, 6.9–10.4 mm).

Body (in the Oriental species) dark, black or dark brown, sometimes with green or bluish tinge; ventral side often reddish black; dorsum dull or slightly iridescent. Legs dark or pale. Palpi and antennae pale or infuscate.

Head densely or sparsely punctate on dorsum, glabrous or pubescent. Eyes convex, nearly hemispherical. Tempora somewhat abrupt, convex or rather flat, not setose in most species (rarely with few, very fine and hardly recognizable setae). Clypeus bisetose, usually slightly emarginate and base of labrum sometimes slightly exposed. Frontoclypeal suture not deepened. Frontoclypeal prolongations either absent or distinct, reaching eyes. Postgenae narrow or rather wide. Mentum and submentum separated by complete transverse suture (at least in the Oriental species). Mentum with median tooth, latter rounded at apex, sometimes (for example in *P. saponarius*) extremely small and very obtuse. Submentum with one or two lateral setae on each side. Paraglossae membranous, glabrous, wide, not separated or only slightly separated from ligular sclerite by narrow notch. Ligular sclerite comparatively narrow or moderately wide, nearly parallel-sided (sometimes hardly

narrowed at apex), with two ventroapical setae and without dorsal setae. Labial basal palpomere with or without oblique carina ventrally. Labial penultimate palpomere approximately equal to apical palpomere or longer than it. Epilobes weakly or rather strongly widened apically.

Pronotum throughout punctate and at least latero-basally pubescent. Pronotal sides with one lateral seta before middle. Apical margin bordered either only laterally or almost completely. Basal margin bordered or not bordered (in the Oriental species, completely bordered, but occasionally border indistinct at middle). Basal angles rounded or sharp at apices, in some species subdenticulate.

Elytra in both sexes densely and regularly punctate (in female more densely punctate than in male) and pubescent, with rows of pores on 3rd, 5th and 7th intervals, occasionally also on 1st interval (pores occasionally hardly recognizable against backgrounds of general punctation). Parascutellar striole long, with a basal pore. *Serries umbilicata* more or less widely interrupted in middle portion; often posterior group divided in two subgroups. Humeri rounded, without denticle at apex; elytral basal border forming a distinct angle with lateral margin. Wings fully developed.

Venter finely and densely punctate and pubescent. Metepisterna notably longer than wide. Anal sternite with two setae on each side in both sexes, its apex in female rounded, in male rounded or slightly emarginate.

Metacoxa without a posteromedial pore. Femur with two, sometimes three setae along posterior margin. Apical spur of protibia slender. Tarsi pubescent dorsally. Metatarsomere 1 slightly longer or slightly shorter than metatarsomeres 2 + 3. Tarsomere 5 with three to five pairs of latero-ventral setae. Pro- and mesotarsi in male dilated, with mesotarsomere 1 bearing adhesive vestiture ventrally.

Hemisternite and basal stylomere with one or several (two or three) distal setae.

Apical stylomere slightly shorter than basal stylomere, usually with, sometimes without, proximal short seta on venter.

Median lobe of aedeagus arcuate, without (in the Oriental species) apical capitulum, often serrate on venter apically. Apical orifice in dorsal position or slightly shifted to the right, in many species membranous area extended to basal bulb and covered with virga. Internal sac with or without spines.

Composition and distribution. The subgenus *Hyparpalus* includes 32 (together with *Orphanixus* about 40) species distributed in the tropical Africa and nine species distributed in the Oriental Region from India and Sri Lanka to Sunda Islands and Philippines; one of the Oriental species reaches the northern Australia.

The Oriental species are divided here in three species groups: the *cyaneotinctus*, *subtilis* and *javanus* groups.

Key to the species groups and species of *Hyparpalus* of the Oriental and Australian regions

1. Basal angles of pronotum angularly or rather widely rounded at apices. Clypeo-ocular prolongations absent or, if present, very superficial, at eyes usually indistinct. Head on frons and vertex and pronotum without microsculpture. Anal sternite in male more or less rounded at apex 2
- Basal angles of pronotum obtuse, sharp at apices, sometimes subdenticulate. Clypeo-ocular prolongations distinct, at eyes deepened. Head and pronotum with distinct microsculpture (the *javanus* group). Anal sternite in male slightly emarginate at apex 6
2. Body larger (8.8–10.4 mm). Head pubescent dorsally. Pronotum punctate rather coarsely and uniformly. Postgena wider, eye separated from buccal fissure ventrally by a distance only slightly shorter than width of 1st antennomere. Labial basal palpomere not carinate ventrally; epilobes rather narrow, weakly widened apically (Fig. 1) (the *cyaneotinctus* group) 3
- Body smaller (6.9–8.5 mm). Head glabrous dorsally. Pronotum punctate more coarsely

- along margins and much more finely in central portion. Postgena very narrow, eye separated from buccal fissure by a distance much shorter than width of 1st antennomere. Labial basal palpomere with oblique carina ventrally; epilobes notably widened apically (Fig. 2) (**the *subtilis* group**) 4
3. Body smaller (in male 8.8–9.1 mm, in female 9.4–9.7 mm). Dorsal punctation finer and denser, elytra with seven to eight punctures across each 3rd interval in its middle portion. Elytral sutural angle narrowly rounded at apex. Terminal lamella of median lobe of aedeagus asymmetrical in dorsal view, relatively shorter and less strongly curved ventrad; internal sac with one large spine medially (Figs 7–9) ***P. cyaneotinctus***
 - Body larger (in male 9.7–10.1 mm, in female 9.8–10.4 mm). Dorsal punctation coarser and less dense, elytra with five to six punctures across each 3rd interval in its middle portion. Elytral sutural angle sharp at apex. Terminal lamella of median lobe of aedeagus almost symmetrical in dorsal view, slightly longer and more strongly curved ventrad; internal sac with two large spines medially (Figs 10–12) ***P. indicus***
 4. Legs, including femora, dark, blackish brown. Median lobe of aedeagus moderately curved, its apical portion bent ventrad just behind middle (Figs 23–25). Specimens from Laos, Thailand, Vietnam and southern China ***P. vitalisi***
 - Legs pale, yellowish or reddish brown, sometimes tibiae and tarsi slightly infuscate. Median lobe of aedeagus not as above. Specimens from Sri Lanka, India, Pakistan, Nepal and northern Burma (Myanmar) 5
 5. Tibiae and tarsi slightly infuscate. Median lobe of aedeagus moderately and rather evenly curved, its apical portion bent ventrad at middle (Figs 19–22) ***P. lividus***
 - Legs entirely pale, tibiae and tarsi not infuscate. Median lobe of aedeagus strongly curved, its apical portion bent ventrad notably behind middle (Figs 13–18) ***P. subtilis***
 6. Elytral striae on disc slightly deepened and elytral intervals convex; punctation of intervals coarser and less dense, with four to five punctures across each 3rd interval in its middle portion 7
 - Elytral striae on disc almost superficial and elytral intervals more or less flat; punctation of intervals more fine and dense, with six to seven punctures across each 3rd interval in its middle portion 8
 7. Pronotum wider (PW/PL = 1.51–1.57), less strongly narrowed to base (PWmax/PWmin = 1.18–1.19); basal margin approximately equal to elytral base between humeral angles; pronotal sides before very wide basal angles clearly rounded. Median lobe of aedeagus with wider terminal lamella and usually with two spines (occasionally one spine) in internal sac (Figs 27, 33, 34) ***P. formosanus***
 - Pronotum narrower (PW/PL = 1.48–1.53), more strongly narrowed to base (PWmax/PWmin = 1.20–1.25); basal margin shorter than elytral base between humeral angles; sides before less wide basal angles nearly straight. Median lobe of aedeagus with narrower terminal lamella and without spines in internal sac (Figs 26, 31, 32) ***P. cyanellus***
 8. Median lobe of aedeagus more robust, with extremely short terminal lamella and with three to five spines in internal sac (Figs 28, 35, 36). Antennae usually infusate from 3rd or 4th article. Specimens from Sri Lanka, India, Pakistan, Nepal and Burma (Myanmar) ***P. acutangulus***
 - Median lobe of aedeagus more slender, with much longer terminal lamella and with two spines in internal sac: distal one on right side and proximal one on left side (Figs 29, 30, 37–40). Antennae usually infusate from 2nd or 3rd article. Specimens from Sunda Isles and Australia ***P. javanus***

The *cyaneotinctus* group

Diagnosis. Head somewhat coarsely punctate and pubescent. Pronotum throughout rather coarsely and uniformly punctate. Basal angles of pronotum rounded at apices. Clypeo-ocular prolongations absent or, if present, very superficial and indistinct. Labial basal palpomere without oblique carina ventrally. Epilobes rather narrow, weakly widened apically, slightly angulate at margin. Postgenae comparatively wide, eye separated from buccal fissure by a distance approximately equal to width of first antennomere or only slightly shorter than it. Anal sternite rounded at apex in both sexes.

Composition. The *cyaneotinctus* group comprises two Oriental species: *P. cya-*

neotinctus (Bates, 1889) and *P. indicus* (Andrewes, 1931). This group should probably include also the Afrotropical *P. saponarius* (Olivier, 1785), the type species of *Hyparpalus*, and at least part of other Afrotropical species of this subgenus (see below).

Remarks. In addition to the distinctive characters listed in the diagnosis, two species of the *cyaneotinctus* group are easily recognizable among the other Oriental species by the larger body size (8.8–10.4 mm).

Parophonus (Hyparpalus) cyaneotinctus
(Bates, 1889)
(Figs 1, 4, 7–9)

Hypolithus cyaneotinctus Bates, 1889: 269. Type locality: "Tourane [= Danang], Qui-Nhon", Annam, Vietnam.

Type material examined. *Lectotype* (designated here): male, labelled "Annam", "*Hypolithus cyaneotinctus* Bates [Bates' handwriting]" (MNHN). *Paralectotypes*: two females, labelled each "Annam" (MNHN).

Additional material. **China.** *Hainan*: one male, Sanya, 10 m, 4 Apr. 1960, Li Changqing leg. (IZB); one female, same data as above but 5 Apr. 1960 (IZB).

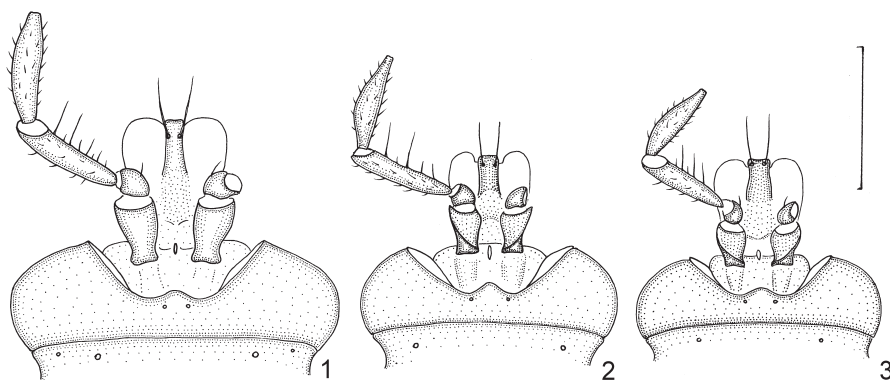
Description. Body length 8.8–9.2 mm in male and 9.4–9.7 mm in female.

Body dark brown, almost black; labrum externally, anterior margin of clypeus and pronotum along lateral borders usually red-

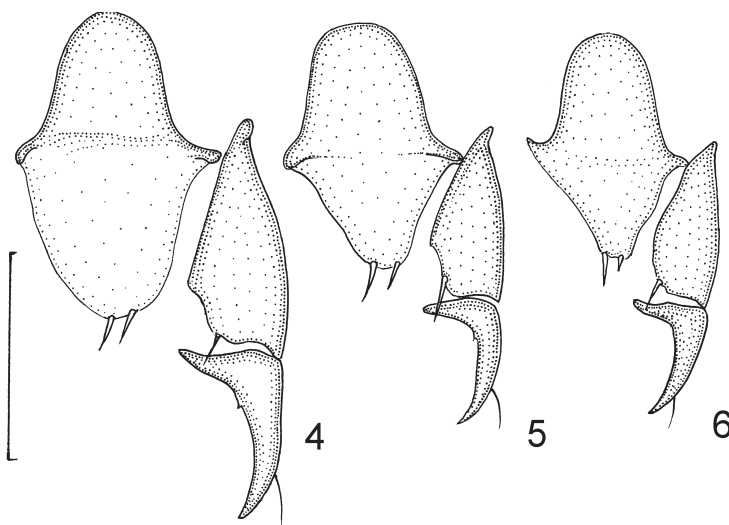
dish brown. Legs pale, yellowish brown. Palpi and antennae brownish yellow, not infuscate.

Head medium-sized, with rather convex eyes. Labium (Fig. 1): mentum with a distinct, obtuse median tooth; length of labial penultimate palpomere approximately equal to length of apical palpomere; ligular sclerite truncate at apex and slightly sinuate at sides. Punctuation of dorsal surface of head rather dense and somewhat regular (distance between punctures approximately equal to their diameter). Dorsal microsculpture visible throughout, very fine, consisting largely of more or less isodiametric meshes; meshes on vertex slightly transverse and obliterate.

Pronotum moderately transverse, widest at middle. Sides evenly rounded. Apical margin rather deeply emarginate; basal margin more or less straight, slightly longer than apical margin and slightly shorter than elytral base between humeral angles; pronotal basal edge glabrous, not ciliate. Apical angles notably protruding anteriad, rather narrowly rounded at apices; basal angles widely rounded at apices. Pronotal disc moderately convex, with wide and shallow latero-basal depressions in basal half of pronotum. Punctuation rather uniform, only slightly more dense and coarse in latero-basal depressions than in central portion and along apical margin. Microsculpture absent.



Figs 1–3. *Parophonus*, subgenus *Hyparpalus*, labium. 1, *P. cyaneotinctus*; 2, *P. subtilis*; 3, *P. acutangulus*. Scale bar 0.5 mm.



Figs 4–6. *Parophonus*, subgenus *Hyparpalus*, hemisternite and stylus. 4, *P. cyaneotinctus*; 5, *P. subtilis*; 6, *P. acutangulus*. Scale bar 0.5 mm.

Elytra widest behind middle, with sides in middle portion almost rectilinearly divergent posteriad. Preapical sinuation rather deep. Sutural angle acute, narrowly rounded at apex in both sexes. Striae impunctate, nearly superficial. Intervals largely flat, only weakly convex at apices, very densely punctate, with seven to eight punctures across each 3rd interval in its middle portion; 3rd, 5th and 7th intervals with rows of setigerous pores along respectively 2nd, 4th and 6th striae or located almost in the middle of intervals; pores weakly recognised against general elytral punctation. Posterior group of *series umbilicata* divided into two subgroups. Microsculpture absent.

Apical stylomere (Fig. 4) with a very short proximal seta on external margin.

Median lobe of aedeagus (Figs 7–9) C-shaped, robust, convex on dorsal and ventral sides, clearly curved ventrad apically. Terminal lamella asymmetrical in dorsal view (Fig. 9), approximately as long as wide, evenly narrowed apicad and narrowly rounded at apex. Apical orifice more or less in dorsal position. Internal sac with one large medial spine and one smaller apical spine.

Proportions: HWmax/PWmax = 0.66–0.68; HWmin/PWmax = 0.49–0.55; PW-

max/PL = 1.52–1.58; EL/EW = 1.49–1.56, EL/PL = 2.82–2.93, EW/PWmax = 1.21–1.24.

Distribution. Reliably known only from Annam (Vietnam) and Hainan (China). Although Bates (1889) in the original description noted that *Hypolithus cyaneotinctus* occurs also in Ceylon and a little later (1891) he reported it from India (Chota Nagpore: Konbir, Tetara), both these records, as already Andrewes (1931) stated, refer actually to *P. indicus*.

Parophonus (Hyparpalus) indicus

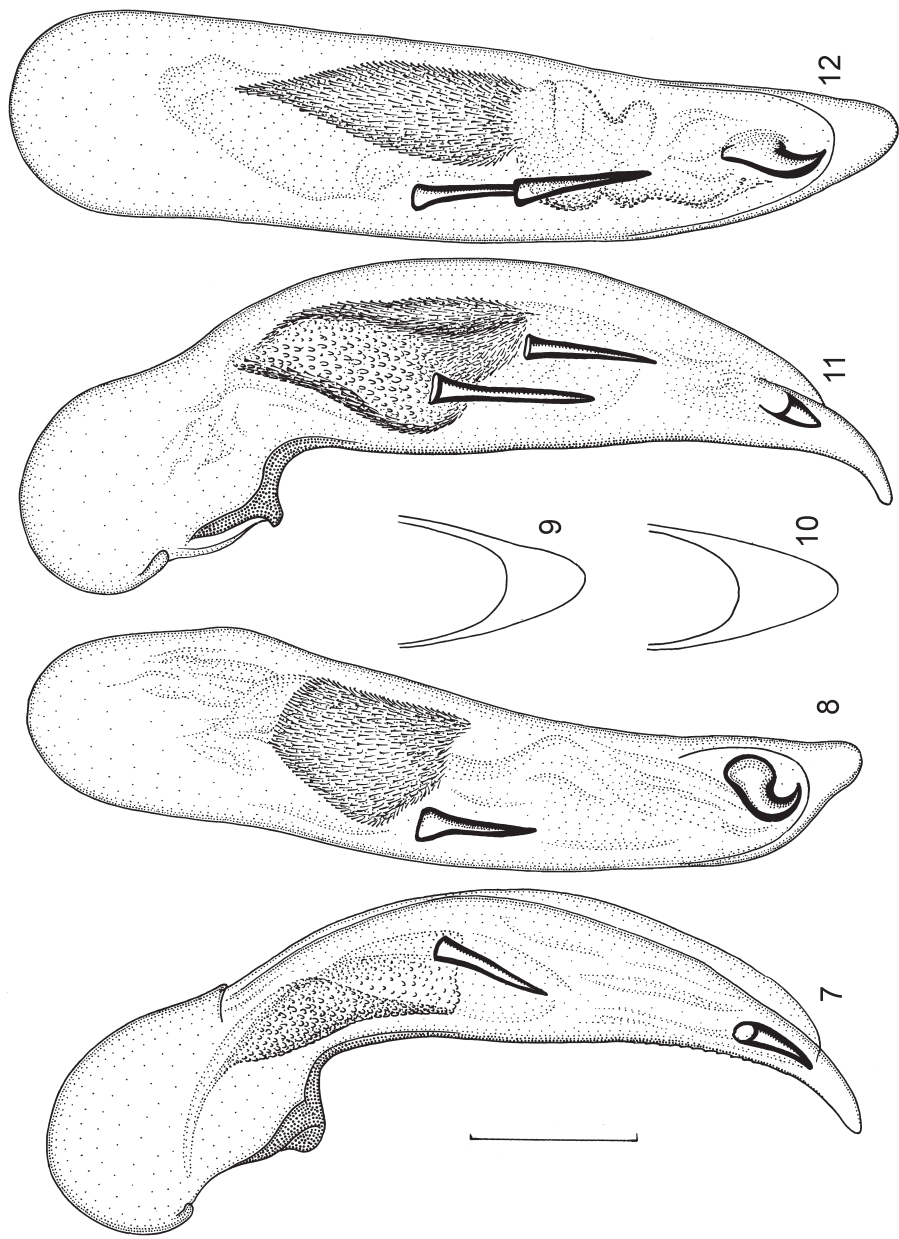
(Andrewes, 1931)

(Figs 10–12)

Hyparpalus indicus Andrewes, 1931: 516. Type locality: India (see Remarks).

= *Hypolithus cyaneotinctus* sensu Bates, 1891: cccxxxi (non Bates, 1889: 269).

Material examined. **India.** Bihar: one male, “Chota Nagpore, Bengal”, “*cyaneotinctus* Bates” [Bates’ handwriting] (MNHN); one female, “Chota Nagpore, Bengal” (MNHN). **Uttar Pradesh:** one male, “Nordindien, Rishikesh Umg., Juli 1991, Richter leg.” (cWR). **Pakistan.** Jammu and Kashmir: one female, Bagh District, Sudhan-gali, 2300 m, 28–31 July 2003, Heinz leg. (cHNZ).



Figs. 7–12. *Parophonus*, subgenus *Hyparpalus*, median lobe of aedeagus (9, 10, terminal lamella). 7–9, *P. cyaneotinctus* (Annam, lectotype); 10–12, *P. indicus* (Chota Nagpore). 7, 11, view from left side; 8–10, 12, dorsal view. Scale bar 0.5 mm.

Description. Very similar to *P. cyaneotinctus* but differs as following.

Body larger: length 9.7–10.1 mm in male and 9.8–10.4 mm in female.

Dorsal punctation slightly coarser, on elytra with four to six punctures across each 3rd interval in its middle portion. Elytral sutural angle sharper. Terminal lamella of median lobe of aedeagus almost symmetrical in dorsal view (Fig. 10), slightly longer than wide and more strongly than in *P. cyaneotinctus* curved ventrad, with three spines in internal sac: two large median spines and one smaller apical spine (Figs 11, 12).

Proportions: HWmax/PWmax = 0.65–0.68; HWmin/PWmax = 0.50–0.53; PWmax/PL = 1.49–1.59; EL/EW = 1.52–1.59, EL/PL = 2.86–3.01, EW/PWmax = 1.19–1.26.

Distribution. *Parophonus indicus* is known from India, Sri Lanka and Pakistan. This species is apparently a western vicariant of *P. cyaneotinctus*. The original description of *P. indicus* was based on the specimens collected in several localities of India within provinces Karnataka (Bangalore, Nandidrug and Chikkaballapura), Madhya Pradesh (Balaghat, Baihar, South Mandla, Motinala, Seoni and Khawasa), Bihar (Barwa, Tetara, Konbir, Ranchi and Monghyr), Uttar Pradesh (Dehra Dun) and Sikkim. In addition to the examined material, Andrewes (1931) obviously correctly referred to this species also the specimens from Ceylon mentioned by Bates (1889, 1891) as belonging to *Hypolithus cyaneotinctus*. Here *P. indicus* is recorded from Pakistan (Jammu and Kashmir) for the first time.

The *subtilis* group

= The *iridicolor* group sensu Ito, 1993

Diagnosis. Head micro-punctate, glabrous. Pronotum punctate more coarsely along margins, particularly latero-basally, and much more finely in central portion. Basal angles of pronotum angularly or somewhat widely rounded at apices. Clypeo-ocular prolongations absent or, if present, very

superficial and indistinct. Labial basal palpomere with oblique carina ventrally. Epilobes notably widened apically. Postgenae narrow, distance between inner margin of eye ventrally and buccal fissure much shorter than width of first antennomere. Anal sternite rounded at apex in both sexes.

Composition. The group includes three species: *P. subtilis* (Bates, 1892), *P. lividus* (Andrewes, 1923) and *P. vitalisi* (Andrewes, 1922).

Remarks. The *subtilis* group corresponds to the *iridicolor* group sensu Ito, 1993 who defined it within *Hyparpalus* (the latter was treated by him as a separate genus) on the basis of the followings characters: “aedeagus fairly slender, basal angles of pronotum rounded, frontal impressions very obscure, body large in size (more than 8.0 mm)”. According to Ito (1993, 2008), the *iridicolor* group includes the following taxa: *Hyparpalus iridicolor* Landin, 1955, *H. nagpurensis* Ito, 1993 (with two subspecies: *H. nagpurensis nagpurensis* Ito, 1993 and *H. nagpurensis curvatus* Ito, 1993), *H. pakistanensis* Ito, 2008, *H. hiekei* Ito, 1993, and *H. maniti* Ito, 1993 (with two subspecies: *H. maniti maniti* Ito, 1993 and *H. maniti similis* Ito, 1993). In my opinion, all these taxa are conspecific with the three species included in the *subtilis* group.

Parophonus (Hyparpalus) subtilis

(Bates, 1892)

(Figs 2, 5, 13–18)

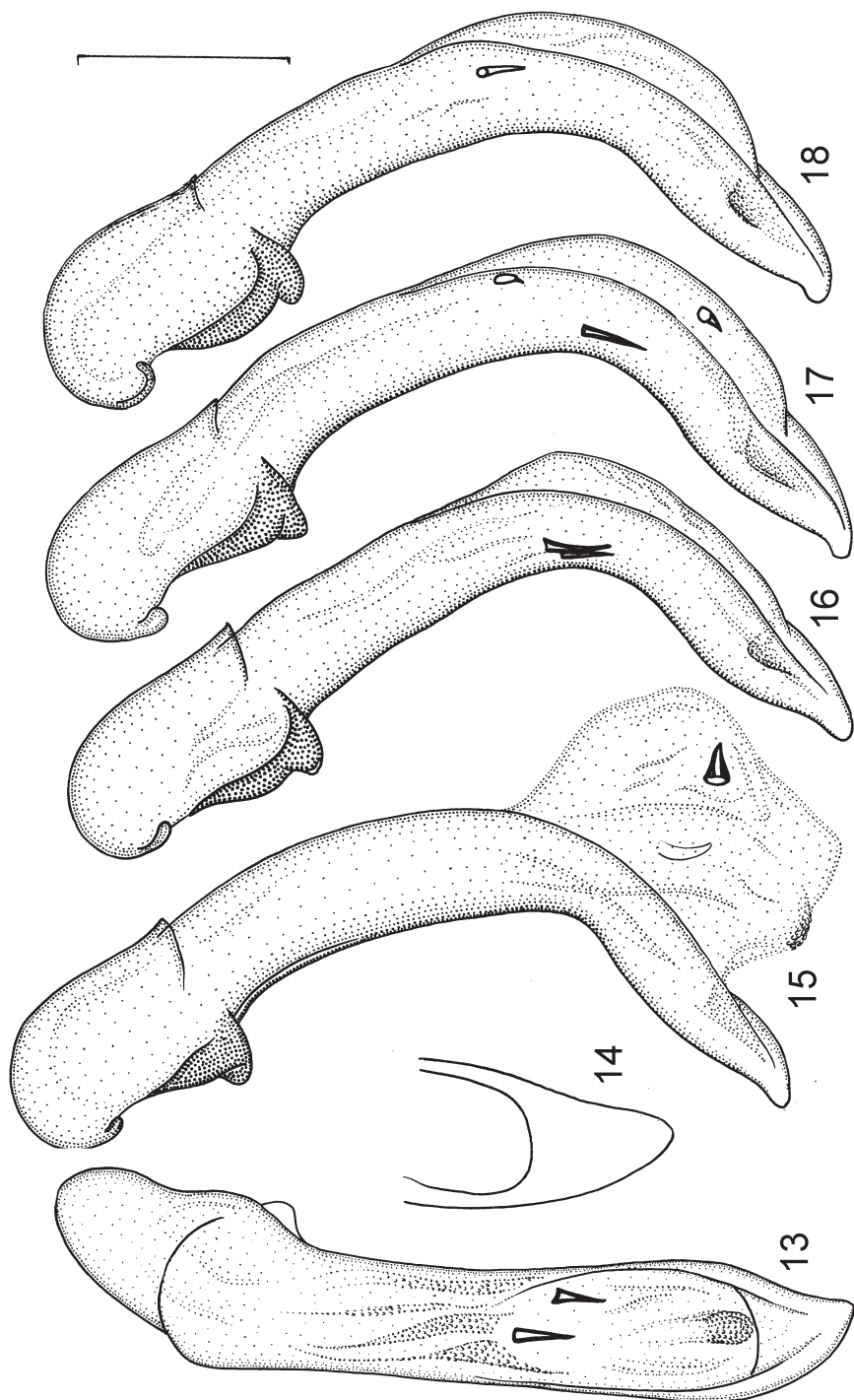
Hypolithus subtilis Bates, 1892: 338. Type locality: “Bhamo” (24°16'N 97°14'E), Burma (Myanmar).

= *Hyparpalus iridicolor* Landin, 1955: 454, **new synonym**. Type locality: “Myitkyina, 175 m”, Burma (Myanmar).

= *Hyparpalus nagpurensis* Ito, 1993: 164, **new synonym**. Type locality: “Nagpore” [= Nagpur], Maharashtra, India.

= *Hyparpalus nagpurensis curvatus* Ito, 1993: 167, **new synonym**. Type locality: “Coimbatore [= Coimbatore], South India, 1400 feet”.

= *Hyparpalus pakistanensis* Ito, 2008: 75, **new synonym**. Type locality: 70 km of Lahore, Changa Manga forest, Punjab Province, Pakistan.



Figs 13–18. *Parophonus (Hyparpalus) subtilis*: median lobe of aedeagus (14, terminal lamella). 13, 14, 16, Sri Lanka; 15, Burma (Teinzo); 17, Pakistan; 18, Nepal. 15–18, view from left side; 13, 14, dorsal view. Scale bar 0.5 mm.

Type material examined. ? *Syntype* of *Hypolithus subtilis*: male, labelled "Teinzo [24°26'N 97°16'E, about 10 km N of Bhamo], Birmania, Fea, Maggio 1886", "*Hypolithus subtilis* Bates [Bates' handwriting]" (MNHN).

Holotype of *Hyparpalus iridicolor*: male, labelled "Burma, 1934, Myitkyina, 175", "Typus", "*Hyparpalus iridicolor* Ldn., B.O. Landin, B.O. Landin det." (NRM).

Holotype of *Hyparpalus nagpurensis*: male, labelled "India or., Nagpore", "Zool. Mus. Berlin", "Holotype, *Hyparpalus nagpurensis nagpurensis* N. Ito" (ZMB). *Paratypes*: three females, same data as holotype, but labelled as paratypes (one paratype also with additional label "*Hypolithus* sp.?, det. Ing. Jedlička") (ZMB).

Holotype of *Hyparpalus nagpurensis curvatus*: male, labelled "S Indien, Coimbatore, 1400 f, XII.69", "Zool. Mus. Berlin", "Holotype, *Hyparpalus nagpurensis curvatus* N. Ito" (ZMB). *Paratypes*: one male, one female, same data as holotype, but labelled as paratypes (ZMB); four females, "South India, Pondicherry State, Karikal", "Zool. Mus. Berlin", "Paratype, *Hyparpalus nagpurensis curvatus* N. Ito" (ZMB); one female, "Ceylan, Nietner", "Zool. Mus. Berlin", "Paratype, *Hyparpalus nagpurensis curvatus* N. Ito" (ZMB).

Additional material. **Sri Lanka.** Two males, one female, Mahatlava, 9 km SW of Yala, Yala Nature Reserve, 22 Oct. 1982, V. Zaitsev leg. (ZIN). **India.** *Rajasthan*: one male, Jodhpur, 30 Aug. 1989, S. Toms leg. (ZIN). *Delhi*: one male, one female, New Delhi, 15 Nov. 1957, Aleksandrov leg. (ZIN); one male, New Delhi, 1 Sept. 1980, J. Scifert leg. (cWR). *Tamil Nadu*: three males, S India, Coimbatore, Dec. 1966, P. Susai Nathan leg. (FMNH); one female, "Indien/Madras, Coimbatore, 1400 ft", Dec. 1986, P.S. Nathan leg. (ZSM). *Assam*: one female, Kairkhana, 20 Jan. 1912, von-Vik (ZIN). **Pakistan.** *Jammu and Kashmir*: one male, Islamabad, "SW from Garni", 1500 m, 5–15 Dec. 2003, V. Gurko & S. Ovchinikov leg. (ZIN); one female, distr. Punch, Bagh, 1100 m, 9 June 1997, K. Slaven leg. (cWR). **Nepal.** One male, Biralnagar, 2 Oct. 1980, J. Scifert leg. (cWR); one female, Chitwan, Gunganagar, 5 km W Rampur, light trap, Sept. 2004, Y. Ćc leg. [IAAS/SSMP-WG] (cWR); three females, Kathmandu, 31 Oct. 1980, J. Scifert leg. (cWR; ZIN); one female, Lumbini, Bhalubang, Rapati River, 280 m, 27°49'54"N 82°45'57"E, river-side, 16 Jun. 2007, M. Hartmann leg. (NME); one male, "Nepal-Himal, Kali-Kandaki-Fluss,

zw. Tatopani und Beni, ca 1000 m", 29 Oct. 1992, J. Schmidt leg. (cSCHM); one male, "Nepal-Himal, Annapurna Mts., Kali Gandaki Tal bei Tatopani, ca 1000 m", 13 Jun. 1993, J. Schmidt leg. (cSCHM); one female, Dhaulagiri Himal, Rahugat Khola Valley, NW of Beni, 800–1100 m, 7–8 May 2002, J. Schmidt leg. (cSCHM); one male, one female, Annapurna Mts., Myagdi Distr., Beni-Typlyan, 900–1000 m, 14 March 1994, Ahrens leg. (cSCHM).

Description. Body length 7.3–8.5 mm in male and 7.4–8.4 mm in female.

Body dorsally black, with bluish tinge, clearly iridescent; labrum externally, anterior margin of clypeus and lateral borders of pronotum usually reddish brown; ventral side of body reddish black. Palpi, antennae and legs pale, brownish yellow or reddish yellow; antennae occasionally slightly infuscate from 3rd or 4th antennomeres.

Head medium-sized, with large and convex eyes. Clypeo-ocular prolongations very superficial, often indistinct. Labium (Fig. 2): mentum with a distinct, obtuse median tooth; labial penultimate palpomere slightly longer than apical palpomere; ligular sclerite truncate at apex and more or less parallel-sided. Punctuation of dorsal surface of head very fine, rather dense and somewhat regular (distance between punctures usually slightly longer than their diameter). Dorsal microsculpture visible only in anterior part of clypeus and behind eyes, consisting of obliterate, more or less isodiametric meshes.

Pronotum comparatively weakly transverse, widest usually just before middle. Sides rounded along entire length, more widely in basal half than in apical half. Apical margin rather deeply emarginate; basal margin more or less straight, sometimes weakly concave medially, slightly longer than apical margin and slightly shorter than (in some specimens almost equal to) elytral base between humeral angles; pronotal basal edge glabrous, not ciliate. Apical angles notably protruding anteriad, rather narrowly rounded at apices; basal angles widely, but usually angularly, rounded at apices. Pronotal disc moderately convex; lateral depres-

sions beginning from apical angles, very narrow apically, evenly widened posteriad and fused basally with wide and shallow latero-basal depressions. Punctuation rather dense and irregular; distance between punctures usually shorter than their diameter, sometimes, mainly in central portion of disc, equal to their diameter; punctures in latero-basal depressions often confluent. Microsculpture on disc absent.

Elytra elongate, widest usually behind middle, with weakly rounded sides. Preapical sinuation rather weak. Sutural angle notably less than rectangular, in both sexes slightly blunt at apex. Striae impunctate, slightly impressed. Intervals weakly convex, very densely punctate, with six to eight punctures across each 3rd interval in its middle portion. Posterior group of *series umbilicata* divided into two subgroups. Microsculpture absent.

Apical stylomere (Fig. 5) with a very short and thin proximal seta on external margin.

Median lobe of aedeagus (Figs 13–18) strongly curved, its apical portion angularly bent ventrad notably behind middle, convex on ventral side and slightly directed ventrad at apex (lateral aspect). Terminal lamella (Fig. 14) asymmetrical, more or less triangular, weakly concave on left side, slightly longer than wide and narrowly rounded at apex (dorsal aspect). Apical orifice slightly shifted to the right. Internal sac with one to three separate, medium-sized spines: usually one or two longer proximal spines and often also one shorter distal spine.

Proportions: HWmax/PWmax = 0.66–0.72; HWmin/PWmax = 0.50–0.55; PWmax/PL = 1.44–1.49; EL/EW = 1.52–1.56, EL/PL = 2.63–2.80, EW/PWmax = 1.17–1.22.

Distribution. The species is widely distributed in southern Asia from Sri Lanka across India, Pakistan and Nepal to Burma (Myanmar).

Remarks. *Hypolithus subtilis* was described from the specimens collected by L. Fea in Bhamo, Burma (Myanmar). My in-

terpretation of this species is based on the examination of the male collected by L. Fea in Teinzo, Burma (Myanmar) (see type material). This male supplying Bates' determinational label fits Bates' original description and seems to be from the type series because Teinzo (24°26'N 97°16'E) is a small village located about ten km to the north of Bhamo. *Hyparpalus iridicolor*, *H. nagpurensis*, *H. nagpurensis curvatus* and *H. pakistanensis* were described each without comparison with *Hypolithus subtilis*, from one or several specimens collected in one or a few close localities: *Hyparpalus iridicolor* from a single male from Burma (Myitkyina), *H. nagpurensis* from five specimens (two males and three females) collected in Central India (Nagpur), *H. nagpurensis curvatus* from eleven specimens (three males and eight females) collected in South India (Coimbatore, Karikal and Madras) and "Ceylon", and *H. pakistanensis* from nine specimens (six males and three females) collected in Pakistan (all in Changa Manga forest, 70 km of Lahore, Punjab Province). However, the examination of the available type material and comparison it with the additional specimens from different localities revealed that the characteristics of all these taxa mentioned in the original descriptions including the shape of the basal pronotal angles, number and shape of the spines in the internal sac of the aedeagus are rather variable even within one population to warrant separate specific or subspecific status. For example, according to Ito (2008), *H. pakistanensis* differs from *H. nagpurensis nagpurensis* mainly in "aedeagus armed with only single longer sclerite instead of three shorter sclerites... Their cross-pairing may be improbable because of the different number of sclerites in the internal sac, and thus these are regarded as two independent species". However, number of sclerites (spines) in the internal sac of the aedeagus in the specimens examined by me from India and Sri Lanka where, according to Ito (1993), *H. nagpurensis* is distributed, varies from one to three, whereas the internal sac of the

single specimen examined by me from Pakistan is armed with three spines. Moreover, such variation (one to three spines) was observed even among the specimens collected in one locality, for example in Coimbatore, South India. In a similar manner, among the two males collected together in Mahatlava (Sri Lanka) one male has two spines and the second male has only one spine in the internal sac. Besides, there is no correlation between the number of spines in the internal sac and any other morphological character of the examined specimens. Since, according to my opinion, the distinctive characters of *Hyparpalus iridicolor*, *H. nagpurensis*, *H. nagpurensis curvatus* and *H. pakistanensis* are within variation of *Parophonus subtilis*, I treat all these names as synonyms of the latter species.

Parophonus (Hyparpalus) lividus

(Andrewes, 1923)

(Figs 19–22)

Hypolitus lividus Andrewes, 1923: 234. Type locality: "Nagpur", Maharashtra, India.

= *Hyparpalus hiekei* Ito, 1993: 162, **new synonym**. Type locality: "Nagpore" [= Nagpur], Maharashtra, India.

Type material examined. *Holotype* of *Hypolitus lividus*: male, labelled "Nagpur, India, 12–6–17, D. Abreu", "Central Mus. Nagpur, C. P.", "Type", "Holotype" [round piece of paper, with red margin], "*Hypolitus lividus* Andr. Type, H.E. Andrewes det.", "H.E. Andrewes Coll., B.M. 1945–97", "*Hyparpalus lividus* Andrewes, Holotype, det. N. Ito 2000" (BMNH).

Holotype of *Hyparpalus hiekei*: male, labelled "India or., Nagpore", "*Hypolitus* sp.", "Zool. Mus. Berlin", "Holotype, *Hyparpalus hiekei* N. Ito" (ZMB). Paratypes: one male, one female, same data as holotype, but labelled as paratypes (ZMB).

Additional material. **India.** *Tamil Nadu*: one male, two females, Coimbatore, July 1966, P. S. S. Nathan leg. (FMNH).

Description. Very similar to *P. subtilis* but differs as following.

Body length 7.4–7.6 mm in male and 7.6–8.2 mm in female.

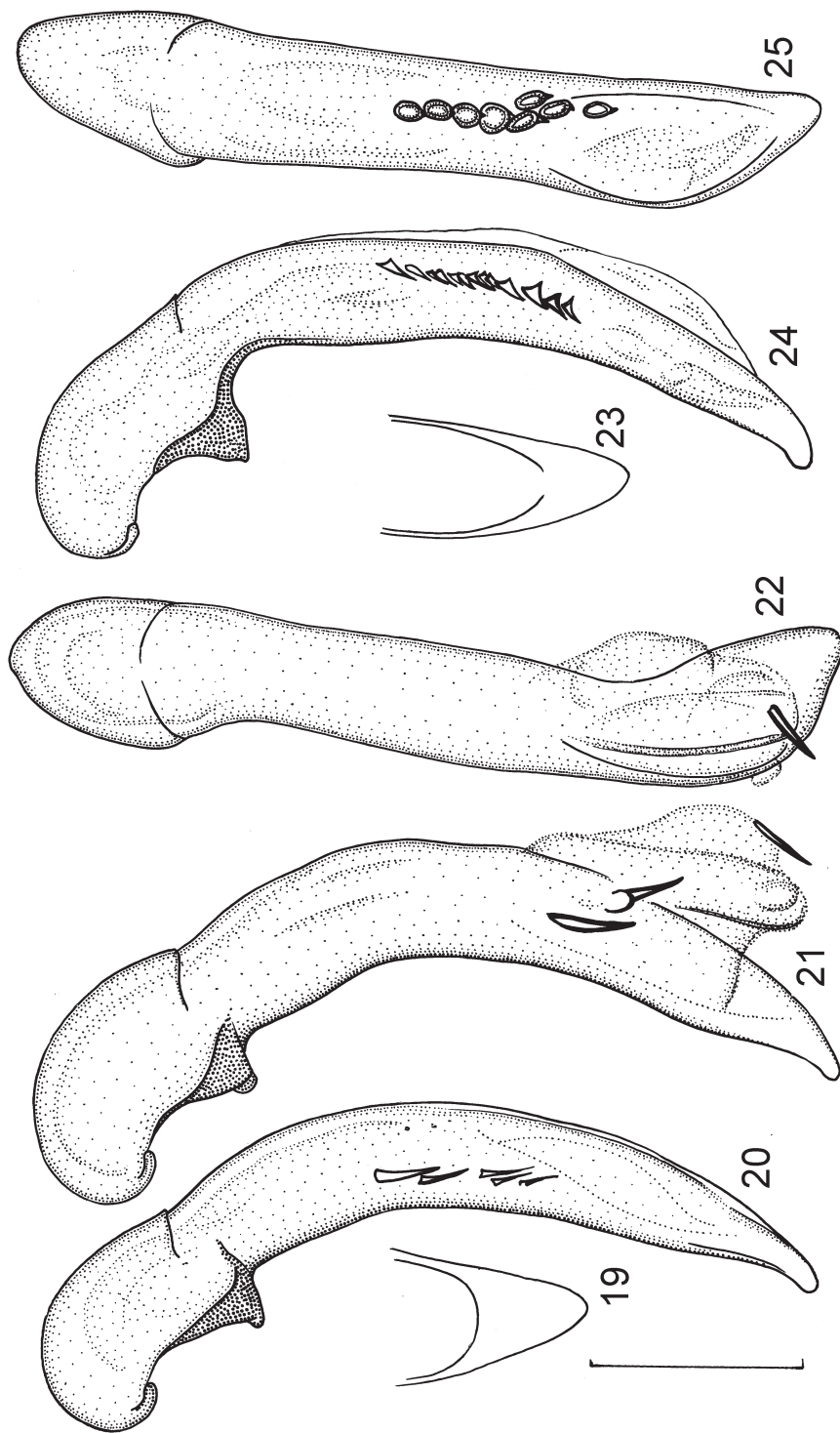
Legs pale, brownish yellow or reddish yellow, but tibiae and tarsi usually slightly infuscate. Dorsal microsculpture on head usually absent. Pronotal basal angles rather widely rounded, usually wider than those in *P. subtilis*. Median lobe of aedeagus (Figs 19–22) moderately and rather evenly curved, its apical portion weakly convex on ventral side, bent ventrad at middle of median lobe (lateral aspect), rather strongly also bent to the right (dorsal aspect) and just at apex slightly directed ventrad. Terminal lamella (Fig. 19) triangular, approximately as long as wide, narrowly rounded at apex (dorsal aspect). Apical orifice rather strongly shifted to the right. Internal sac with group of three to five medium-sized spines medially.

Proportions: HWmax/PWmax = 0.67–0.69; HWmin/PWmax = 0.51–0.53; PWmax/PL = 1.44–1.51; EL/EW = 1.54–1.57; EL/PL = 2.65–2.76; EW/PWmax = 1.16–1.21.

Distribution. Known from Sri Lanka, India, Bangladesh and Pakistan (Punjab).

Remarks. *Hypolitus lividus* was described from the specimens collected in Sri Lanka (Colombo), Pakistan (Punjab: Rawalpindi), Bangladesh (Muzaffarpur, Siripur) and India (Maharashtra: Bombay, Nagpur; Karnataka: Belgaum; Gujarat: Surat; West Bengal: Calcutta, Chapra and Sarda; Bihar: Pusa, Kierpur and Katihar; and Uttar Pradesh: Sitapur, Luckow, Hurdwar and Roorkee). *Hyparpalus hiekei* was based on five specimens from "Nagpore [= Nagpur], India", the type locality of *H. lividus*, without comparison with the latter species. The examination of the holotypes of both these taxa revealed their specific identity, thus I treat *H. hiekei* as a synonym of *H. lividus*.

The type series of *Parophonus lividus* is in need of re-examination because it may be mixed, with some syntypes actually belonging to *P. subtilis*. These two sympatric species are very similar in habitus to each other and may be separated with assurance only on the basis of the male genitalia. *Parophonus subtilis* was apparently unknown to Andrewes



Figs 19–25. *Parophonus*, subgenus *Hyparpalus*, median lobe of aedeagus (19, 23, terminal lamella). 19–22, *P. hiebei* (19, 21, 22, Nagpur, holotype of *Hyparpalus hiebei*; 20, Nagpur, holotype); 23–25, *P. vitalisi* (Laos, paratype). 20, 21, 24, view from left side; 19, 22, 23, dorsal view. Scale bar 0.5 mm.

(1923) since in the original description of *Hypolithus lividus* he compared his species only with the unrelated *H. acutangulus*.

Parophonus (Hyparpalus) vitalisi

(Andrewes, 1922)

(Figs 23–25)

Hypolithus vitalisi Andrewes, 1922: 287. Type locality: “Vientiane and Paklung”, Laos.

= *Hyparpalus maniti* Ito, 1993: 167, **new synonym**. Type locality: San Sai, Chiang Mai Prov., Thailand.

= *Hyparpalus maniti similis* Ito, 1993: 170, **new synonym**. Type locality: Mae Ai, Chiang Mai Prov., Thailand.

Type material examined. *Paratype* of *Hypolithus vitalisi*: male, labelled “Laos, Vientiane, July 1915, R.V. de Salvaza”, “Indo-China. R.V. de Salvaza. 1921–89”, “Standing in BMNH as: *Hypolithus vitalisi* Andrewes” (ZIN).

Paratype of *Hyparpalus maniti*: female, labelled “San Sai, Chiang Mai, Thailand, 1.V.1990, N. Ito leg.”, “Paratype, *Hyparpalus maniti maniti* N. Ito” (NRM).

Paratype of *Hyparpalus maniti similis*: female, “Mae Ai, Chiang Mai, Thailand, VI.1991, N. Koyama”, “Paratype, *Hyparpalus maniti similis* N. Ito” (ZIN).

Additional material. **China.** *Yunnan*: one male, mouth of Nanxi River, Hekou, at light, 200 m, 10 June 1956, Hwang Keyen leg. (ZIN); one female, 30 km SW of Jinping, 400 m, 1 May 1956, Hwang Keyen leg. (ZIN); one female, S Yunnan Prov., Xishuangbanna, 20 km NW Jinghong, Man Dian (NNNR), 22°07.80'N 100°40.05'E, 720 m, 25–26 May 2008, LF, A. Weigel leg. (NME). *Guangxi*: two male, Longzhou, 330 m, 15 June 2000, Li Wenzhu leg. (IZB). **Vietnam.** *Thanh Hoa*: one male, mountains NW of Bai-Thuong near Lang-Tian, 25 Apr. 1963, O. Kabakov leg. (ZIN); one male, same data as above but 20 Apr. 1963 (ZIN); one male, same data as above but 15 May 1963 (ZIN). *Hanoi*: one male, Ba Vi Nature Park, 750 m, Apr.–May 1997, A. Monastyrskij leg. (FMNH). **Thailand.** *Phetchaburi*: one male, one female, 50 km SW of Phetchaburi, env. Nature Park Kaeng Krachan, 30 July–5 Aug. 1996, A. Gorokhov leg. (ZIN). *Phetburi*: one male, Bon Kaeng Krachan, 30–31 July 1996, Mostovskij leg. (MPU). *Uthai Thani*: one male, two females, 25 km NW Lan Sak, 110 m, Oct. 1989, W. Thielen leg. (cWR; ZIN); 4 males, three females, 25 km

NW Lan Sak, 65 km NW Uthai Thani, Apr. 1990, W. Thielen leg. (cSCHM; ZIN). *Nakhon Ratchasima*: three males, one female, Pak Chong, Randgebiet Khao Yai Nature Park, Nakhon Ratchasima, 14°36.780'N 101°24.290'E, 400 m, 14–22 Febr. 2006, T. Ihle leg. (NME); one male, Ratchasima (Korat), Nong Bun Nak vill., 240 m, 14°41.4'N 102°27.25' E, 31 July 2009, V.K. Zinchenko leg. (SZM); two female, same data as above but 14°41.4'N 102°27.25'E, at light, 1 Aug. 2009, V.K. Zinchenko leg. (SZM); one male, 6 km SW Pak Chong, Ban Dai Ma Station, 350–375 m, 12 Sept.–10 Oct. 2000, I. Fritzsche leg. (cWR). *Bangkok*: one male, Rajitani Villa, Clong Luang, 20 Dec. 2007–10 Jan. 2008, A.V. Korshunov leg. (SZM). *Ta Phraya*: one female, La Lu Nature Park, 127 m, at light, 14°02'32"N 102°34'32"E, 19 May 2010, V.K. Zinchenko leg. (SZM).

Description. Very similar in habitus to *P. subtilis* and *P. lividus* but differs as following.

Body length 7.2–8.2 mm in male and 7.6–7.9 mm in female.

Body in general darker, usually black. Legs dark, blackish brown, tarsi and tibiae basally in many specimens paler. Antennae basally reddish brown, but distinctly infuscated from 2nd–3rd antennomeres on. Labial penultimate palpomere notably longer than apical palpomere. Microsculpture on head as in *P. subtilis* visible in anterior part of clypeus and behind eyes, consisting of obliterate, more or less isodiametric meshes. Pronotal basal angles usually obtuse, more rarely somewhat widely rounded at apices. Elytral punctation coarser and sparser than that in *P. subtilis* and *P. lividus*, with four to six punctures across each 3rd interval in its middle portion. Median lobe of aedeagus (Figs 23–25) moderately curved, its apical portion bent (slightly angularly) ventrad just behind middle, somewhat flat on ventral side (lateral aspect) and almost not curved to the right (dorsal aspect). Terminal lamella (Fig. 23) triangular, more or less symmetrical, approximately as long as wide, narrowly rounded at apex (dorsal aspect). Apical orifice slightly shifted to the right. Internal sac usually with group (up to nine) of medium-sized, narrow or moderately wide, spines medially; sometimes only one medial spine present.

Proportions: $HW_{max}/PW_{max} = 0.68-0.70$; $HW_{min}/PW_{max} = 0.52-0.54$; $PW_{max}/PL = 1.41-1.52$; $EL/EW = 1.48-1.53$; $EL/PL = 2.66-2.73$; $EW/PW_{max} = 1.19-1.26$.

Distribution. Known from Laos, Thailand, Vietnam and southern China (Yunnan, Guangxi).

Remarks. This species is easily distinguished from all other Oriental species of *Hyparpalus* by dark legs. In the aedeagus structure, *P. vitalisi* is most similar to *P. lividus*, but its median lobe is bent ventrad just behind middle and slightly angularly; in addition, the apical portion of the median lobe is rather flat on ventral side and almost not curved to the right.

Andrewes (1922) described *P. vitalisi* based on a large series collected by R.V. de Salvaza in Laos (Vientiane and Paklung). Ito (1993) described *P. maniti* on the basis of the specimens from Thailand collected there in three localities (San Sai, Mae Taing and Chiang Dao), all within Chiang Mai Province. The latter species was described without comparison with *P. vitalisi* as similar to *P. hiekei* from which it differs in "having the body almost wholly black, the basal angles of pronotum more narrowly rounded, and the aedeagus slenderer, with the copulatory pieces shorter and thicker". In the same paper Ito described also the subspecies *P. maniti similis* from the specimens collected in Mae Ai which is situated in the same (Chiang Mai) province of Thailand. According to Ito (l. c.), the subspecies *similis* is "distinguished from the original subspecies by the pronotum more widely rounded at basal angles, the base of pronotum not wider than, and equal in width to the apex, and the inner sack of aedeagus bears the apical copulatory pieces slenderer and three in number instead of single". Examination of the type specimens of all three taxa together with the original descriptions and comparison them with the additional material from Thailand, Vietnam and China revealed that all three taxa belong to one species. In my opinion, the differences between *P. man-*

iti maniti and *P. maniti similis* described by Ito are insufficient, particularly for winged forms within so small a region, and, moreover, not supported by additional material. Therefore I treat both the latter names as synonyms of *P. vitalisi*.

The *javanus* group

Diagnosis. Head micro-punctate, glabrous. Pronotum punctate more coarsely along margins, particularly latero-basally, and much more finely in central portion. Pronotal basal angles obtuse, with sharp apices. Clypeo-ocular prolongations distinct, rather deep, reaching eyes. Labial basal palpomere with oblique carina ventrally. Epilobes notably widened apically. Postgenae narrow, distance from inner margin of eye ventrally much shorter than width of first antennomere. Anal sternite in female rounded, in male slightly emarginate at apex.

Composition. The group comprises four, apparently allopatric species: *P. cyanellus* (Bates, 1889), *P. formosanus* (Jedlička, 1940), *P. acutangulus* (Bates, 1891) and *P. javanus* (Gory, 1833).

Remarks. This group (unfortunately without any included species) was first defined by Ito (1993) within *Hyparpalus* (which was treated by him as a genus) as following: "aedeagus more or less robust, basal angles of pronotum often angulate, frontal impressions clear and deeper, body smaller in size (less than 8.0 mm)".

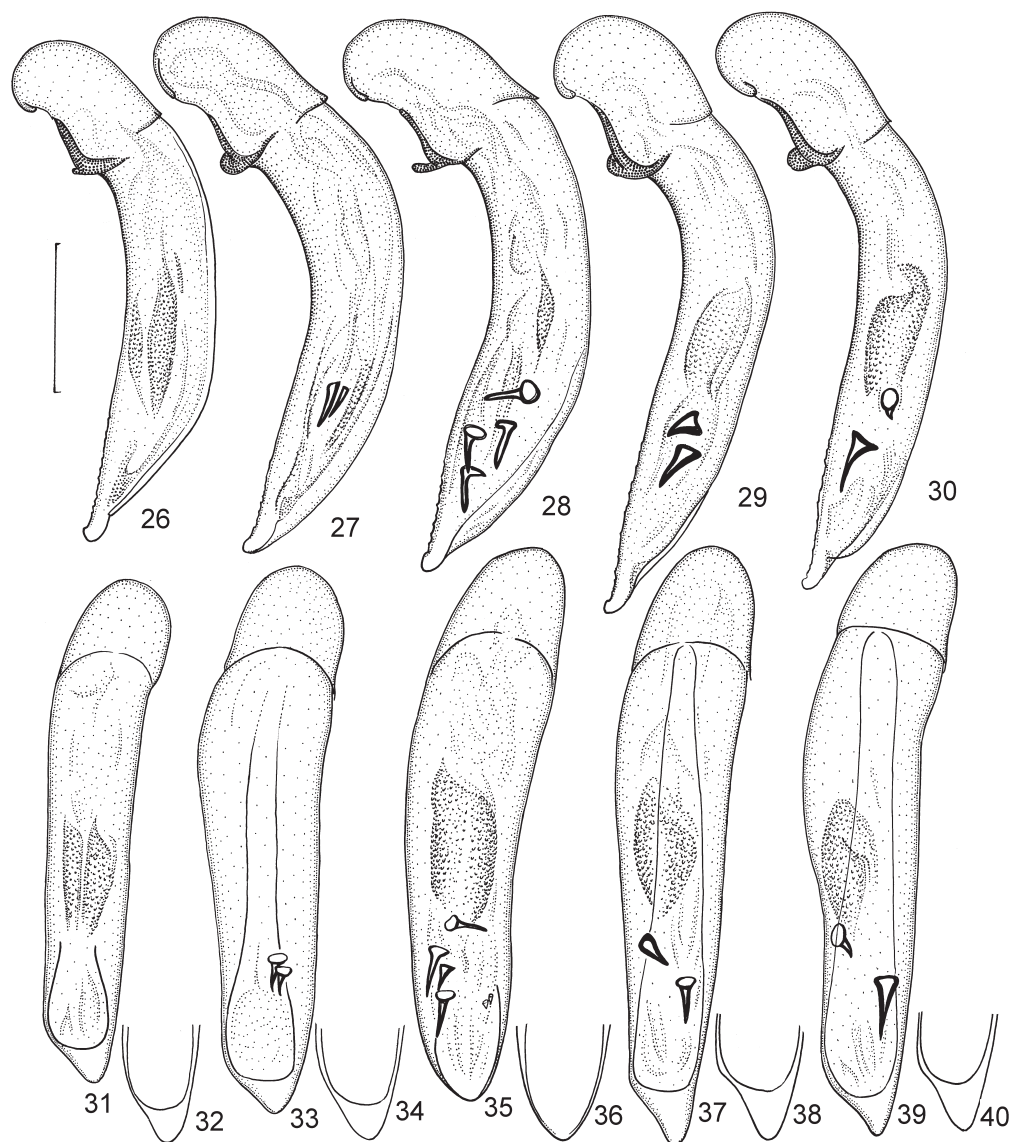
Parophonus (Hyparpalus) cyanellus (Bates, 1889)

(Figs 3, 6, 26–32)

Hypolithus cyanellus Bates, 1889: 269. Type locality: "Annam", Vietnam.

Type material examined. Lectotype (designated here): male, labelled "Annam", "*Hypolithus cyanellus* Bates [Bates' handwriting]" (MNHN). Paralectotype: female, "Annam" (MNHN).

Additional material. **China.** **Yunnan:** one male, Xishuangbanna, Dameng Long, 650 m, 23 June 1958, Meng Xuwu leg. (IZB); one female, Xishuangbanna, Chongjing Hong, 21 June 1958,



Figs 26–40. *Parophonus*, subgenus *Hyarpalus*, median lobe of aedeagus (32, 34, 36, 38, 40, terminal lamella). 26, 31, 32, *P. cyanellus* (Annam, lectotype); 27, 33, 34, *P. formosanus* (Hainan); 28, 35, 36, *P. acutangulus* (Chota Nagpore, lectotype); 29, 30, 37–40, *P. javanus* (29, 37, 38, Java; 30, 39, 40, Australia). 26–30, view from left side; 31–40, dorsal view. Scale bar 0.5 mm.

Zhang Yivan leg. (IZB); one male, Xishuangbanna, 37 km NW of Jinghong, vic. Guo Men Shan, 22°14.43'N 100°36.12'E, 1100 m, BF, rice fallow, 28 June 2008, L. Meng leg. (NME); one female, Xishuangbanna, 20 km NW of Jinghong, vic. Man Dian (NNNR), 22°07.80'N 100°40.05'E, 720 m, MF, rice fallow, 28 June 2008, A. Wei-

gel leg. (NME); one female, Xishuangbanna, 25 km NW of Jinghong, vic. Zhong Zhi Chang, 22°11.06'N 100°39.05'E, 780 m, BF, rubber plant, 12 May 2008, A. Weigel leg. (NME). **Vietnam.** *Shonla*: one male, two females, Shongma, 3–5 May 1986, A. Gorokhov leg. (ZIN). *Song-Be*: one male, ca 60 km N of Hochimin, env. Phu

Giao, 3 Dec. 1994, A. Napolov & D. Volkov leg. (ZIN). *Dongnai*: one male, Nam Cat Tien Nat. Park, Exped. Russ.-Vietnamese Tropical Centre, at light HOL450, 23–25 May 2005, D. Fedorenko leg. (cFED); two males, same data as above but 17 May 2005 and 2 June 2005 (cFED); one male, one female, same data as above but 5 June 2005, D. Fedorenko leg. (ZIN). **Thailand**. *Uthai Thani*: three male, two females, 25 km NW Lan Sak, 110 m, Oct. 1989, W. Thielen leg. (cWR, ZIN); 10 males, 15 females, 25 km NW Lan Sak, 65 km NW Uthai Thani, June 1990, W. Thielen leg. (NME, ZIN, cSCHM). *Phetchaburi*: one female, 50 km SW of Phetchaburi, env. Kaeng Krachan Nature Park, 30 July–5 Aug. 1996, A. Gorokhov leg. (ZIN). *Nakhon Ratchasima*: one male, 6 km SW Pak Chong, Ban Dai Ma Station, 350–375 m, 12 Sept.–10 Oct. 2000, I. Fritzsche leg. (cWR). *Chainat*: one male, Han-Kha, 60 km N of Suphan-Burl, Febr. 1990, W. Thielen leg. (ZSM). *Ta Phraya*: one female, La Lu Nature Park, 130 m, at light, 14°02'2''N 102°34'5.6''E, 16 May 2010, V.K. Zinchenko leg. (SZM). **Malaysia**. *Perak*: one male, 25 km E Gerik, 500 m, "primärwald" [= primeval forest], 15 Sept. 2002, H. Deumer leg. (ZIN).

Description. Body length 7.0–7.5 mm in male and 7.4–7.6 mm in female.

Body black, with bluish or greenish tinge, clearly iridescent on dorsum; in most specimens labrum externally, anterior margin of clypeus and lateral margins (often also basal border) of pronotum reddish brown. Palpi, antennae and legs pale, brownish yellow or reddish yellow; antennae infusate from 2nd or 3rd antennomeres.

Head medium-sized, with rather large and convex eyes ($HW_{max}/PW_{max} = 0.64–0.68$; $HW_{min}/PW_{max} = 0.48–0.53$). Clypeo-ocular prolongations deep up to supraorbital furrows. Labium (Fig. 3): mentum with distinct, but comparatively short, obtuse median tooth; length of labial penultimate palpomere approximately equal to length of apical palpomere; ligular sclerite truncate at apex, more or less parallel-sided, only hardly sinuate at sides apically. Punctuation of dorsal surface of head very fine, and irregular, rather dense (more sparse on frons), but almost everywhere distance between punctures longer than their diameter. Dorsal microsculpture visible throughout,

consisting of fine weakly transverse and (mostly on clypeus and above eyes) isodiametric meshes.

Pronotum moderately transverse, widest before or just in middle. Sides rounded, in basal half almost rectilinearly convergent posteriad. Apical margin rather deeply emarginate; basal margin more or less straight, occasionally weakly concave medially and rounded laterally, slightly longer than apical margin and slightly shorter than elytral base between humeral angles; pronotal basal edge glabrous, not ciliate. Apical angles notably protruding anteriad, narrowly rounded at apices; basal angles obtuse, sharp at apices, subdenticulate (see medially). Pronotal disc moderately convex; lateral depressions beginning from apical angles, very narrow apically, behind lateral pore markedly widened posteriad and fused basally with wide, moderately deep latero-basal depressions. Punctuation rather dense and irregular; usually distance between punctures shorter than their diameter in area along margins of pronotum and longer than their diameter in central portion of disc; punctures in latero-basal depressions often confluent. Microsculpture visible throughout, consisting of weakly transverse meshes on disc and of more or less isodiametric meshes in narrow area along margins of pronotum.

Elytra widest usually behind middle, with weakly rounded sides. Preapical sinuation somewhat deep. Sutural angle notably acute, blunt or narrowly rounded at apex. Striae impunctate, slightly impressed. Intervals weakly convex, with four to five punctures across each 3rd interval in its middle portion. Discal pores on 3rd, 5th and 7th intervals comparatively large, well recognised against general elytral punctuation. Microsculpture absent.

Median lobe of aedeagus weakly curved, with triangular terminal lamella and without spines in internal sac (Figs 26, 31, 32). Apex of terminal lamella narrowly rounded (dorsal aspect) and slightly directed ventrad (lateral aspect). Ventral side of median lobe apically almost straight and slightly serrate.

Proportions: $HW_{max}/PW_{max} = 0.64-0.68$; $HW_{min}/PW_{max} = 0.48-0.53$; $PW_{max}/PL = 1.48-1.53$; $PW_{max}/PW_{min} = 1.20-1.25$; $EL/EW = 1.47-1.58$, $EL/PL = 2.70-2.88$, $EW/PW_{max} = 1.19-1.25$.

Distribution. China (Yunnan), Vietnam, Thailand and Malaysia (Perak Province).

Remarks. This species is distinguished from *P. acutangulus* and *P. javanus* by the elytra with more convex and more sparsely punctate intervals and by the median lobe without spines in the internal sac. In the elytra with convex and rather sparsely punctate intervals, *P. cyanellus* is similar to *P. formosanus*, but differs from it in the pronotum narrower and more strongly narrowed to base; its sides before less wide basal angles are nearly straight; the terminal lamella of the aedeagus is narrower and the internal sac is without spines.

Parophonus cyanellus was described from Indo-China without more exact information. Because the specimen, designated here as lectotype, bears the label "Annam", the type locality is restricted accordingly to Annam, Vietnam.

Parophonus (Hyparpalus) formosanus

(Jedlička, 1940)

(Figs 27, 33, 34)

Hyparpalus formosanus Jedlička, 1940: 11. Type locality: "Kosempo" and "Toruku" (see remarks below), Taiwan, China.

Type material examined. *Paratype*: male, labelled "Kosempo, Formosa, H. Sauter, 1909", "*formosanus* sp. n., det. Ing. Jedlička", "Cotype", "Mus. Nat. Pragae Inv. 65691" (NMP).

Additional material. **China.** *Fujian*: one male, "Kuatun, Fukien, China meridon., Klapperich", "*Hyparpalus formosanus* J., det. Ing. Jedlička" (NMP). *Guangdong*: one male, Dongguan Co., March 1981, Liu Tanjin leg. (IZB). *Taiwan*: one male, labelled "Formosa, Sauter", "Lamhen, 08.I", "Type", "*Hyparpalus sauteri* Schaub." [as far as I know, this taxon has never been described], "*Hyparpalus formosanus* Jedl., det. Ing. Jedlička" (HNHM). *Hainan*: two males, four females, Danzhou, SC Tropical Agr. Univ., light trap, 19.50903°N 109.48934°E, 145 m, 16 May 2007,

Ge Deyan leg. (IZB); one male, one female, same data as above but 19.49767°N 109.51508°E, 140 m, 15 May 2007, H.B. Liang leg. (IZB); 9 males, 9 females, Changjiang Shilu reservoir, light trap, 19.25192°N 109.08924°E, 132 m, 14 May 2007, H.B. Liang leg. (IZB); one male, two females, Changjiang Bawangling, on street, light trap, 19.11104°N 109.08168°E, 145 m, 13 May 2007, H.B. Liang leg. (IZB); one male, Tong Shi, 340 m, 2 Aug. 1960, Li Fu leg. (IZB); one female, Jianfeng, 70 m, 26 March 1980, Pu Fuji leg. (IZB); one male, same data as above but 23 Sept. 1975, Xe Donghai leg. (IZB). **Vietnam.** *Hai phong*: one male, mountains near Do Son, 14 Oct. 1961, O. Kabakov leg. (ZIN).

Description. Characters as in *P. cyanellus* but differing as following.

Body length 7.2–8.1 mm in male and 7.4–8.0 mm in female.

Body usually duller than in *P. cyanellus*, without greenish or bluish tinge and less strongly iridescent on dorsum. Legs pale, reddish brown, sometimes tibiae apically and tarsi slightly infuscate. Pronotum wider than in *P. cyanellus*, less strongly narrowed to base; sides before very wide basal angles clearly rounded; basal margin approximately equal to elytral base between humeral angles. Preapical sinuation of elytra less deep. Median lobe of aedeagus with wider than in *P. cyanellus* terminal lamella and with usually two, more rarely one, spines in internal sac (Figs 27, 33, 34).

Proportions: $HW_{max}/PW_{max} = 0.61-0.63$; $HW_{min}/PW_{max} = 0.47-0.49$; $PW_{max}/PL = 1.51-1.57$; $PW_{max}/PW_{min} = 1.18-1.19$; $EL/EW = 1.46-1.52$, $EL/PL = 2.66-2.77$, $EW/PW_{max} = 1.16-1.21$.

Distribution. This species was described from Taiwan ("Formosa"). Habu (1973, 1978) reported it from Ishigaki Island (Japan, Ryukyus), Ito (1994) from "Canton" (= Guangzhou, China), and Liang (2004) from Shiwandashan Mountains (Guangxi, China). Here *P. formosanus* is reported from Vietnam and Chinese provinces Hainan, Guangdong and Fujian. Thus the geographical range of this species includes the south-eastern China (Taiwan, Hainan, Guangdong, Guangzhou, Guangxi and Fujian),

the northeastern Vietnam and the southern Japan (Ryukyus).

Remarks. Like *P. cyanellus*, *P. formosanus* is distinguished externally from *P. acutangulus* and *P. javanus* by the elytra with more convex and more sparsely punctate intervals. The median lobe of *P. formosanus* differs from that of *P. acutangulus* in the much longer terminal lamella and in fewer (one or two) spines in the internal sac. As compared with the aedeagus of *P. javanus*, the median lobe of *P. formosanus* is robuster and bent ventrad closer to the middle.

According to the original description (Jedlička, 1940: 1, 11), the type series of *Hyparpalus formosanus* includes five specimens from Taiwan: three from "Kosempo" and two from "Toruku"; one of the specimens was designated as "type", other as "cotypes". Unfortunately A. Jedlička did not indicate the label data ("Kosempo" or "Toruku") of the specimen designated by him as "type". Because I have had an opportunity to examine only one paratype (designated by A. Jedlička as "cotype"), at present the type locality of *P. formosanus* can not be restricted to one of these points.

Parophonus (Hyparpalus) acutangulus
(Bates, 1891)
(Figs 6, 28, 35, 36)

Hypolithus acutangulus Bates, 1891: cccxxxi.

Type locality: "Tetara", Chota Nagpur, India.

Hyparpalus gracilis Andrewes, 1947: 13, **new synonym**. Type locality: "S. Shan States: Pekkong", Burma (Myanmar).

Type material examined. *Lectotype* of *Hypolithus acutangulus* (designated here): male, labelled "Chota Nagpore, Bengal", "*Hypolithus acutangulus* Chd. Bates [Bates' handwriting]" (MNHN).

Holotype of *Hyparpalus gracilis*: male, "S Shan States, Pekkong, 900 m, 11.X.1934, Malaise", "Typus", "*Hyparpalus gracilis* Andr., Type, H.E. Andrewes det.", "61–54", "Genital. prep. ut fört, B.O. Landin" (NRM).

Additional material. **India.** *Tamil Nadu*: one male, Coimbatore, Dec. 1966, P. Susai Nathan leg. (FMNH). *West Bengal*: one male, Barodabri, May. 1961, Korovin leg. (ZIN). *Uttar Pradesh*:

two males, one female, Himalaya, Dehra Dun, New Forest, 700 m, 20–30 June 1981, C. Holzschuh leg. (NME, ZIN). **Pakistan.** *Jammu and Kashmir*: two females, Islamabad, "SW from Garni", 1500 m, 5–15 July 2003, V. Gurko & S. Ovchinnikov leg. (cGRK). **Nepal.** One male, two females, Chitwan, Gunganagar, 5 km W Rampur, light trap, Sept. 2004, Y. Gc leg, [IAAS/SSMP–WG] (cWR, ZIN); one male, Nepalganj, 200 m, 17 July 1995, D. Ahrens & Pommeranz leg. (cSCHM); one male, one female, Lumbini, Bhalubang, Rapati River, 280 m, 27°49'54"N 82°45'57"E, riverside, 16 June 2007, M. Hartmann leg. (NME); one female, "Nepal-Himal, Kali-Kandaki-Fluss, zw. Tatopani und Beni, ca 1000 m", 29 Oct. 1992, J. Schmidt leg. (cSCHM).

Description. Very similar externally to *P. cyanellus* but differing as following.

Body length 6.9–7.1 mm in male and 7.0–7.3 mm in female.

Antennae often infusate from 3rd or 4th antennomere. Pronotal sides before basal angles clearly rounded. Elytra with almost superficial striae and almost flat intervals. Elytral intervals more finely and more densely punctate, usually with six or seven punctures across each 3rd interval in its middle portion. Discal pores on 3rd, 5th and 7th intervals comparatively small, weakly recognised against general elytral punctation. Seta on external margin of apical stylomere (Fig. 6) not recognised. Median lobe of aedeagus with extremely short terminal lamella and four or five medium-sized spines in internal sac (Figs 28, 35, 36). Ventral side of median lobe convex in apical portion.

Proportions: HWmax/PWmax = 0.65–0.67; HWmin/PWmax = 0.50–0.52; PWmax/PL = 1.48–1.57; PWmax/PWmin = 1.18–1.21; EL/EW = 1.50–1.51, EL/PL = 2.78–2.95, EW/PWmax = 1.24–1.29.

Distribution. Known from India, Sri Lanka (after Andrewes, 1928), Pakistan, Nepal and Burma (Myanmar).

Remarks. This species is distinguished from other species of the *javanus* group by the median lobe with the extremely short terminal lamella and four or five medium-sized spines in the internal sac. In addition,

it differs from *P. cyanellus* and *P. formosanus* in the flatter elytral intervals with denser punctuation.

Hypolithus acutangulus was described from "Tetara", Chota Nagpore, India. According to the original description, Bates (1891) included in the type series also a specimen from the former Chaudoir's collection labelled "Sumatra", differing slightly from the specimen from Chota Nagpore in "a little more rectangular" basal angles of pronotum. The study of the type specimens from both these localities revealed that they belong to the two different species. The specimen from Chota Nagpore, which was designated here as lectotype (see type material), is conspecific with *Hyparpalus gracilis* described more recently by Andrewes (1947) from Pekkong, Burma (Myanmar). Respectively, the name '*gracilis*' is treated as a synonym of '*acutangulus*'. The specimen from Sumatra, which is thus a paralectotype (see below), is conspecific with *Hypolithus javanus* described by Gory (1833) from Java.

Parophonus (Hyparpalus) javanus

(Gory, 1833)

(Figs 29, 30, 37–40)

Hypolithus javanus Gory, 1833: 241. Type locality: "Java".

= *Diaphoromerus opacus* MacLeay, 1888: 469, **new synonym**. Type locality: King Sound, Western Australia, Australia.

= *Parophonus australicus* Baehr, 1986: 67, **new synonym**. Type locality: 17 km NE of Wille-roo about 110 km SSW of Katherine, Northern Territory, Australia.

Material examined. **Indonesia.** *Java*: one male, "Java, collection le Moul't" (ZIN). *Sumatra*: three specimens, "Medan, Mj'ob." (NRM); one male [a paralectotype of *Hypolithus acutangulus* Bates], labelled "Dr. B. Hagen, Tanjong Morana, Serdang (N.O. Sumatra)", "*Hypolithus acutangulus* Chd. teste R. Oberthür" (MNH). *Sulawesi*: one female, "Zentral-Sulawesi, Danau Poso, Bances", 26 Nov. 1996, Horst Rudolph leg. (ZSM). **Australia.** *Northern Territory*: one female, "Australia, Northern Territory" (ZIN); one male, N. T., Gregory N. P., Timber Creek, at light, 30–31 Dec. 1996, L. Toledano & R. Olivieri leg. (ZIN).

Description. Very similar externally to *P. acutangulus* from which reliably distinguished only by male genitalia; also in most specimens antennae infusate from 2nd or 3rd article.

Body length 7.1–7.6 mm in male and 7.2–7.5 mm in female.

Median lobe of aedeagus comparatively slender, bent ventrad just behind basal bulb, with triangular terminal lamella and with two spines in internal sac: distal one on right side and proximal one on left side (Figs 29, 30, 37–40). Ventral side of median lobe in apical half almost straight or only weakly convex. Terminal lamella (Figs 38, 40) markedly concave on right side.

Proportions: HWmax/PWmax = 0.64–0.66; HWmin/PWmax = 0.47–0.51; PWmax/PL = 1.49–1.53; PWmax/PWmin = 1.18–1.21; EL/EW = 1.42–1.47, EL/PL = 2.77–2.91, EW/PWmax = 1.27–1.32.

Distribution. According to the examined material and published data [Andrewes, 1933 (as *Hyparpalus acutangulus*); Louwerens, 1954 (as *Hyparpalus acutangulus*); Moore et al., 1987 (as *Parophonus opacus*)], this species is distributed in Indonesia (Java, Sumatra, Sulawesi, Bali, Sumba, Timor and Andonare islands) and northern Australia (Western Australia, Northern Territory, Queensland).

Remarks. Externally, *P. javanus* may be distinguished from *P. cyanellus* and *P. formosanus* by the flatter elytral intervals with denser punctuation. It is discriminated from *P. acutangulus* by the male genitalia with the triangular terminal lamella of the median lobe. The median lobe of aedeagus of *P. javanus* is slenderer than in other species of the *javanus* group, bent ventrad more closely to the basal bulb and probably constantly with two spines in the internal sac.

Hypolithus javanus was described from "Java". The type of this species is probably lost (Andrewes, 1931). *Diaphoromerus opacus* and *Parophonus australicus* were described from Australia. Two latter taxa were treated as conspecific by Baehr (1987), who designated lectotype of *Diaphoromerus opa-*

cus. Because, according to my data, only one species occurs in Indonesia and Australia, I regard *Diaphoromerus opacus* and *Parophonus australicus* as synonyms of *P. javanus*.

Andrewes (1931) treated *Hypolithus acutangulus* as conspecific with *H. javanus*, but these species are distinct since they sharply differ in the male genitalia characters and are isolated geographically (see also remarks under *Parophonus acutangulus*).

***Parophonus (Hyparpalus)* sp.**

Material examined. **Philippines.** *Mindanao*: one female, "Davao Prov., Maco, Tagum, original dipterocarp forest, at sea level, Oct.1946, CNHM-Philippine Zool. Exped. (1946–47), H. Hoogstraal & D. Heyneman leg." (FMNH); one female, "Davao Prov., E slope Mt. Apo, 2800 ft, Nov. 1946, CNHM-Philippine Zool. Exped. (1946–47), H. Hoogstraal leg." (FMNH).

Remarks. Two females examined from Mindanao are similar to *P. formosanus* in having the similar coloration, the elytra with weakly convex and rather sparsely punctate intervals, the pronotum rather wide ($PW_{max}/PL = 1.56–1.58$) and weakly narrowed basad ($PW_{max}/PW_{min} = 1.17–1.18$), but their body is smaller (6.6–7.0 mm), elytra are relatively longer ($EL/PL = 2.85–2.88$) and head is relatively smaller ($HW_{max}/PW_{max} = 0.68$; $HW_{min}/PW_{max} = 0.52–0.53$). The identification of these females will be possible only after the examination of the male specimens.

Some remarks on relationships between the Oriental and Afrotropical *Hyparpalus*

The species of the *cyaneotinctus* group are more similar morphologically and apparently more closely related phylogenetically to the Afrotropical species of *Hyparpalus*, as treated by Lecordier (1988), than to any other Oriental species. It should be noted, however, that *Hyparpalus* is much more diverse in Africa (about 32 species) than in Asia and, besides, the Afrotropical species are still not assigned to species-groups. For this reason the Afrotropical

species obviously demonstrate much wider spectrum of the morphological characters than two species of the Oriental *cyaneotinctus* group. Thus, the *cyaneotinctus* group shares all its distinctive characters listed in the diagnosis with *P. saponarius*, the type species of *Hyparpalus*, but in some other Afrotropical species one or several of these characters may be absent. For example, *P. tomentosus* (Dejean, 1829), which is very similar habitually to *P. saponarius*, has the labial basal palpomere with a distinct oblique carina ventrally and the epilobes notably widened apically. In addition, in many Afrotropical species the basal angle of the pronotum is more clearly defined and with a tiny denticle at apex. Further investigations are needed to clarify true relationships between the Oriental members of the *cyaneotinctus* group and the Afrotropical species of *Hyparpalus*.

It is remarkable that the *javanus* and *subtilis* groups are very similar in their main distinctive characters (head micro-punctate, pronotum punctate more coarsely along margins and much more finely in central portion, labial basal palpomere carinate, epilobe notably widened apically and progena narrow) to the Afrotropical taxon *Orphanixus* Clarke, 1971. Although the latter seems to be a natural group, its taxonomic rank and composition are rather debatable. Clarke (1971) erected it as a separate genus for two new species from Ethiopia, but Bruneau de Mire (1976) and Noonan (1985) considered *Orphanixus* a synonym of the genus *Parophonus*. Notice, however, that Bruneau de Mire (1976) treated *Parophonus* and *Hyparpalus* as two separate genera differing in the presence or absence of fronto-ocular prolongations on head, whereas Noonan (1985) listed *Hyparpalus* among synonyms of *Parophonus*. Lecordier (1986), who revised not only species of *Orphanixus* but also all the Afrotropical species of *Hyparpalus* (1988), followed Clarke (1971) treating *Orphanixus* as a separate genus and, besides, included in it, in addition to the three species de-

scribed by Clarke (1971, 1972), one newly described species and six species which Basilewsky (1950) considered members of *Hyparpalus*. In the more recent works (Lorenz, 1998, 2005; Facchini, 2003), *Orphanixus* and *Hyparpalus* were treated as subgenera of *Parophonus*. The correct status of *Orphanixus* and its true relationships with the members of the Oriental *subtilis* and *javanus* groups of *Hyparpalus* can be clarified only after re-examination of all known species of *Orphanixus* and *Hyparpalus*, but it is obvious that three groups in question (the Afrotropical *Orphanixus* and the Oriental *subtilis* and *javanus* groups) are more closely related to each other than each of them to any other group of *Parophonus*. In the distinct fronto-ocular prolongations on head, *Orphanixus* is similar to the *javanus* group, but in the rounded basal angles of the pronotum in most species, *Orphanixus* more closely reminds the species of the *subtilis* group. Thus the Afrotropical *Orphanixus* should be treated either as a separate subgenus including also the Oriental *subtilis* and *javanus* groups or as one more species group within the subgenus *Hyparpalus*. Further comparative study of all these taxa is needed.

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